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REMARKS

Claims 1-36 are pending in this application and were rejected under 35 U.S.C. §102(b) as being anticipated by Acharya. Claims 1, 3, 8, 10, 15, 19, 20 and 34 are currently amended. Reconsideration is respectfully requested.

The presently claimed invention distinguishes Acharya because a multicast data packet for which the data path does not have forwarding information is broadcast from the router even if the packet is dropped by the control path. As described at page 3, lines 6-19, a router typically determines whether a multicast data packet can be forwarded via the data path, e.g., whether there is a corresponding entry in a forwarding table, and if there is no forwarding information in the data path then the packet is forwarded via the control path. The control path executes routing protocols to determine which ports are associated with destinations for the multicast packet. However, the problem with this technique is that the control path is relatively slow in comparison with the data path, and consequently multicast packets may be dropped. The presently claimed invention overcomes this problem by broadcasting the multicast packet from each port that could possibly be associated with a destination of the multicast packet. It will be appreciated that this technique may result in some wasted bandwidth because some of the ports may not actually be associated with a destination of the multicast packet. However, the inventive technique mitigates retransmission of multicast packets which might otherwise be dropped in the control path, so net differences in bandwidth usage may be insignificant. Further, the inventive technique reduces the number of delays that would be caused by retransmission of lost packets.

Acharya teaches a non-analogous technique. As described at col. 15, lines 1-30, Acharya teaches that the received ATM cell is forwarded on the VC if it exists, and otherwise a packet is

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assembled. In other words, either the switched path or the routed path is used. Even assuming the switched path and routed path of Acharya were analogous to the data path and control path of the present invention, Acharya fails to teach the present invention because as illustrated at Fig. 9, steps (902, 904 and 906) indicate that only the switched path OR the routed path is used, never both for a particular cell. In contrast, the presently claimed invention may utilize both the data path and control path for a particular multicast data packet. In particular, the data path may be used to avoid packet drop while the control path is used to obtain forwarding information for subsequent packets associated with the same multicast group.

The distinguishing features discussed above are recited in claims 1, 8, 15, 20 and 34. For example, claim 1 distinguishes Acharya by reciting "if the data path of the router does not include forwarding information for the multicast data, broadcasting the multicast data from each port of the router that could possibly be associated with a destination of the multicast data; and subsequent to broadcasting the multicast data, determining via a control path which ports of the router are actually associated with a destination of the multicast data." Similarly, claim 8 recites "if the data path does not include forwarding information for the multicast data, prompt broadcast of the multicast data from each port of the router that could possibly be associated with a destination of the multicast data; and subsequent to prompting broadcast of the multicast data, determine via a control path which ports of the router are actually associated with a destination of the multicast data." Similarly, claim 15 distinguishes Acharya by reciting "processing logic operable if the data path does not include forwarding information for the multicast data to prompt broadcast of the multicast data from each port of the router that could possibly be associated with a destination of the multicast data; and processing logic operable to determine via a control path, and subsequent to broadcast of the multicast data, which ports of the router are actually

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associated with a destination of the multicast data.” Claim 20 distinguishes Acharya by reciting “receiving multicast data for which state information is unknown; broadcasting the multicast data from each port of the router that could possibly be associated with a destination of the multicast data; subsequent to broadcast of the multicast data, performing a reverse path forwarding check on the multicast data; verifying that the multicast data was received at a proper interface; determining a multicast group associated with the multicast data.” Claim 34 distinguishes Acharya by reciting “if the data path does not include forwarding information for the multicast data, installing a default state associated with multicast data in a data path of a line card; broadcasting the multicast data from the line card to all other line cards that the line card is configured to communicate with; sending the multicast data from the data path to a control path of the line card; subsequent to broadcasting the multicast data, at the control path, computing a route for the multicast data.” Claims 2-7, 9-14, 16-19, 21-33, and 35-36 are dependent claims which further distinguish the invention, and which are allowable for the same reasons as their respective base claims. Withdrawal of the rejections of claims 1-36 is therefore requested.

The Office also rejected claims 1, 3, 8, 10, 15, 19 and 20 under 35 U.S.C. §112 because of the claim language “flooding ... from” and “flood .. from.” Applicant has amended these claims to recite “broadcasting” rather than “flooding,” and “broadcast” rather than “flood.” Support is in the specification at page 6, lines 29-32, *inter alia*, which states “the performance also broadcasts the data to all of the router’s interfaces (ports or slots) except the interface that the data came from.” Withdrawal of the rejections of claims 1, 3, 8, 10, 15, 19 and 20 under 35 U.S.C. §112 is therefore requested.

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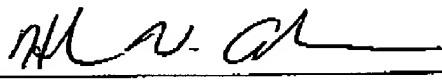
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Applicants have made a diligent effort to place the claims in condition for allowance. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone the undersigned, Applicants' Attorney at 978-264-4001 (X305) so that such issues may be resolved as expeditiously as possible.

For these reasons, and in view of the above amendments, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully Submitted,

June 9, 2005  
Date

  
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Docket No. 120-468